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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/472,993	12/28/1999	MITSUYA SATO	684.2948	9453

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EXAMINER

BROWN, KHALED

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 09/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

09/472,993

Applicant(s)

SATO, MITSUYA

Examin r

Khaled Brown

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,5-11,15 and 18-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-11 and 18-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,5-11,15,19-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishi et al (US 5591958).

Re clm 1,19: Nishi et al discloses a scan exposure apparatus (Fig 1) comprising: a photodetector (46), a storing means (22a), and a correction device (25).

Re clm 2: correction information (Col 11 lines 26-28)

Re clm 5: a first photodetector (46), disposed at a position optically conjugate with the original (12), for detecting information regarding the original and for producing an output; a second photodetector (54) for detecting reflection light from the original and for producing an output; storing means (22a) for storing correction information with respect to the output of said first photodetector in relation to different positions of the original (as the reticle 12 is scanned thru the illumination slit different positions are illuminated), on the basis of the outputs of said first and second photodetectors; and a correction device (25) receiving the correction information stored in said storing means and for correcting, in the lithographic pattern transfer, the output of said first photodetector by use of the correction information (The voltage applied to the light source 23 is varied to increase or

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decrease exposure and this causes a change in the output that comes from photodetector 46).

Re clm 6,22: Nishi et al discloses an exposure apparatus (Fig 1) comprising: an illumination optical system (27-51), a projection optical system (8), a photodetector (46), control means (22a), and correcting means (25).

Re clm 7: the correcting means operates to reduce or remove the influence of the reflection light (Col 11 lines 39-54)

Re clm 8,23,24,27: the correcting means includes reflection light detecting means for detecting reflection light from the original, as illuminated by said illumination optical system, and being directed back to said illumination optical system, and wherein said correcting means operates to reduce or remove the influence of the reflection light, while referring to a result of the detection by said reflection light detecting means (Col 11 lines 20-38).

Re clm 9-11,25,26: Scan type apparatus is disclosed (Col 1 line 13) and discharge lamp (23).

Re clm 15, 18,21,28: reflection from the substrate (Col 11 lines 33-34)

Re clm 20: correction information concerns information corresponding to a light quantity of reflection light at each of different positions of the original (reticle 12) illuminated with exposure light (as the reticle 12 is scanned thru the illumination area 52 different positions are illuminated and reflect light)

Note: No IDS has been filed after the first IDS filed 4-19-00 p. 4

***Response to Arguments***

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Applicant's arguments filed 9-17-02 have been fully considered but they are not persuasive. The applicant argues (Remarks p. 14) that the Nishi et al reference does not disclose a photodetector that detects the quantity of light illuminating the original. However, the Nishi et al reference does disclose a photodetector (Nishi et al 46) that detects the quantity of light illuminating the original (Nishi et al 12). The applicant argues (Remarks p. 15) that the reflectivity photodetector (Nishi et al 54) is not optically conjugate with the original. However, the reflectivity photodetector is shown in Fig 1 to be optically conjugate with the original. The applicant argues (Remarks p. 15) that the Nishi et al reference does not disclose storing information in relation to different positions on the original. However, the Nishi et al reference does disclose storing information in relation to different positions on the original since the original (Nishi et al reticle 12) is scanned through the illumination area (Nishi et al #52) and information related to the reflectance and transmittance of light through the original is stored. The applicant argues (Remarks p. 16) that the Nishi et al reference does not disclose the reflectivity photodetector detects reflection light to produce correction information for a first photodetector. However, the Nishi et al reference does disclose the reflectivity photodetector detects reflection light to produce correction information for a first photodetector (Nishi et al Col 11 lines 20-38). Finally, the applicant argues (Remarks p.18) that Nishi et al does not disclose correcting the output of the light quantity detecting photodetector. However, the Nishi et al reference does disclose correcting the output of the light quantity detecting photodetector (Nishi et al Col 11 lines 35-38) by

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controlling the amount of exposure which of course is going to correct the output of the photodetector detector (Nishi et al 46).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khaled Brown whose telephone number is 703-306-5738. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell E. Adams can be reached on 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

KB  
September 25, 2002

  
RUSSELL ADAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

X